

**What is claimed is:**

1. An optical receiver for receiving an RZ-duobinary optical signal at a bit rate B bits per second, the receiver comprising:
  - 5           an optical bandpass filter responsive to the RZ-duobinary optical signal for filtering the signal within a passband of B Hz; and
  - an optical detector for recovering data from the filtered RZ-duobinary optical signal.
- 10   2. The optical receiver as defined in claim 1 wherein a center frequency of the optical bandpass filtered is detuned from a center frequency of the RZ-duobinary optical signal by an amount less than or equal to  $\pm 0.1 \times B$ .
3. An optical receiver for receiving an RZ-duobinary optical signal at a bit rate B bits per second, the receiver comprising:
  - 15           an optical bandpass filter responsive to the RZ-duobinary optical signal for filtering the signal within a passband having a bandwidth greater than or equal to  $0.7 \times B$  Hz and less than or equal to  $1.3 \times B$  Hz; and
  - an optical detector for recovering data from the filtered RZ-duobinary optical signal.
- 20   4. A method for receiving a duobinary optical signal having a data bit rate of B bits per second, the method comprising the steps of:
  - bandpass filtering the signal through a passband substantially equal to
  - 25   B Hz; and
  - recovering data from the filtered signal, wherein the signal conforms to an RZ-duobinary signaling format.
5. The method as defined in claim 4 wherein a center frequency of the optical bandpass filtered is detuned from a center frequency of the RZ-duobinary optical signal by an amount less than or equal to  $\pm 0.1 \times B$ .
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6. A method for receiving a duobinary optical signal having a data bit rate of B bits per second, the method comprising the steps of:

bandpass filtering the signal through a passband having a bandwidth greater than or equal to  $0.7 \times B$  Hz and less than or equal to  $1.3 \times B$  Hz; and

5 recovering data from the filtered signal, wherein the signal conforms to an RZ-duobinary signaling format.

7. An optical transmission system comprising:

10 an optical transmitter for generating an RZ-duobinary optical signal at a bit rate B bits per second;

an optical transmission medium coupled to the optical transmitter for supporting propagation the RZ-duobinary optical signal;

15 an optical bandpass filter coupled to an output of the optical transmission medium and being responsive to the RZ-duobinary optical signal for filtering the signal within a passband of B Hz; and

an optical detector for recovering data from the filtered RZ-duobinary optical signal.

20 8. The optical transmission system as defined in claim 7 wherein a center frequency of the optical bandpass filtered is detuned from a center frequency of the RZ-duobinary optical signal by an amount less than or equal to  $\pm 0.1 \times B$ .

9. An optical transmission system comprising:

25 an optical transmitter for generating an RZ-duobinary optical signal at a bit rate B bits per second;

an optical transmission medium coupled to the optical transmitter for supporting propagation the RZ-duobinary optical signal;

30 an optical bandpass filter coupled to an output of the optical transmission medium and being responsive to the RZ-duobinary optical signal for filtering the signal within a passband having a bandwidth greater than or equal to  $0.7 \times B$  Hz and less than or equal to  $1.3 \times B$  Hz; and

an optical detector for recovering data from the filtered RZ-duobinary optical signal.